

REMARKS

In the Non-Final Office Action of September 11, 2006, the time for response being extended to March 12, 2007, the Examiner objected to claim 51 as being dependent on canceled claim 6. Claim 51 has been amended to be dependent on claim 5. Claims 53 and 54 have been canceled; claims 2-5, 42, 49 and 50 have been amended; and new claim 55 has been added.

The Examiner further rejected claims 2-4, 42-43, 49-50, 53-54 under 35 U.S.C. §102(b) as being anticipated by Hayter (5,557,035), claim 4 under 35 U.S.C. §103(a) as being unpatentable over Park (6,400,685) in view of Hayter, and claim 5 under 35 U.S.C. §103(a) as being unpatentable over Hayter in view of Manning (5,956,342).

The references of record cited by the Examiner, are directed to ATM switches and the inventions described in the references rely heavily on this fact. In particular, the main inventive feature in the references is that for each input-output port pair, traffic is scheduled in advance so that there is a certain average expected bandwidth from an input A to an output X. For a given output port X, the sum of the expected bandwidths entering X is less than the capacity C of the port X to forward the traffic. In a simple ATM embodiment, these input/output port bandwidths are present with the sum of the bandwidths entering a given output port X being set to some constant K less than C. But if the traffic is bursty, the bandwidth from A to X can exceed C for a sufficiently long time to overflow the output buffers at X.

Hayter (5,577,035), the primary reference relied on by the Examiner, proposes a method of adjusting these bandwidths to probabilistically address the problem of overflowing the output buffers. In the case where the input port A desires to schedule a burst of traffic across the interconnection line from A to X, A sends a request to X to allow for such a burst. These requests are not sent on a per packet basis but are sent when certain thresholds are met. This is discussed at col. 4, lines 1-9. The status of the output port buffers at X is the criterion for allowing or disallowing additional bandwidth. In a case where these buffers are nearly

full, the burst is disallowed because the additional data flowing into these output buffers along with the expected data flowing in from other input ports would cause an overflow. In case the data arriving from other sources is less than expected, the bursty data could have been sent.

In the present Reed/Hesse invention, the acceptance or denial of a request to send a packet is based on the logic at output **X** being totally informed of each packet targeted for **X**. Because the decisions to schedule a packet from an input **A** to an output **X** is based on real rather than probabilistic information, the switch can be more efficiently managed. The switch described in the present invention can be built with 256 OC192 or a higher number of ports. It would not be possible for a switch of the present invention to completely inform the output ports of incoming data using a time slot scheme as illustrated in Hayter. In order to efficiently manage a non-probabilistic switch such as an Internet Protocol switch, entirely new techniques based on an entirely new basic switch need to be employed and those new techniques are described and claimed in the present application.

In particular, claims 2 and 42, the only remaining independent claims have been amended to specifically state that logic at an output port **X** monitors individual message packets arriving at an input port **A** or **B** in order to decide whether an arriving packet can be injected into a data switch **S**. This method of controlling the flow of data through a data switch is fundamentally different than the techniques described in Hayter, Manning and Park, either when the references are considered alone or in combination.

Accordingly, it is submitted that the remaining claims in the application, as amended, are patentably distinct from the references of record, either alone or in combination, and therefore, passage to issue of the remaining claims is respectfully requested.

Respectfully submitted,

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By: 

Keith D. Nowak
Attorney for Applicant
Reg. No. 27,367
Carter Ledyard & Milburn LLP
2 Wall Street
New York, NY 10005
Telephone No.: (212) 238-8610
Facsimile No.: (212) 732-3232